

I do not think myself competent to join in so important a work. If I can render you any assistance by communicating to you descriptions or specimens of plants, I shall do it with the greatest pleasure."

REMARKS.—These extracts include all of the botanical matter of this letter. There is no date, but we can judge that from various allusions. The Lyceum of Natural History to which he refers was founded in 1820, I think, and this is a year after. Elliott's Botany was published (Vol. I.) in 1821. The letter is specially interesting as containing an opinion of Rafinesque by one of his contemporaries, and one who apparently knew him very well. "He is the best *naturalist* I am acquainted with," are the words, "but he is too fond of novelty. He finds too many new things—all is new! new!" a fault which is common to many even of our modern scientists, and for which Rafinesque ought not to be blamed any more than another.—JOS. T. JAMES.

Botany at the Minneapolis Meeting of the A. A. A. S.

This meeting was a memorable one for botanists, there being more in attendance than ever before, and for the first time botanical papers were in the majority in the section of biology. But, after all, the interest at such a time is not so much in the papers read as in the personal contact of the workers who may long have known of each other but never have met, and for whom the clasp of the hand and the glance of the eye cements a friendship already formed. At such times beginners meet with the leaders whose names are household words, and find them genial, hearty, whole-souled men, with a cheering word for all, and they return with fresh zeal to their work; at the same time these leaders have largely augmented their following. Botanical zeal ran so high that it finally culminated in the formation of an American Botanical Club, having no constitution or by-laws, but simply to be an association of botanists who are members of the A. A. A. S., for the purpose of general botanical conference and excursions during the meetings of the American Association. Prof. W. J. Beal was chosen President, and Prof. J. M. Coulter Secretary of this club, which expects to enter fairly on its work at the next meeting in Philadelphia. The members enrolled at Minneapolis are as follows: W. J. Beal, J. M. Coulter, W. G. Farlow, C. E. Bessey, J. C. Arthur, W. R. Dudley, Dr. Geo. Vasey, Dr. E. L. Sturtevant, Lillie J. Martin, Mrs. Ellen B. Reed, Dr. P. R. Hoy, N. S. Townshend, Warren H. Manning, Sadie M. Manning, C.

V. Riley, Robert P. Bigelow, Jos. F. James, B. P. Colton, E. S. Bastin, S. A. Forbes, F. A. Gulley, Ellen E. Smith, Leander Stone, Mrs. Leander Stone, E. W. Claypole, W. R. Lazenby, W. M. Canby, J. W. Chickering, Edw. Pennock, John M. Holzinger, thirty in all, and from thirteen different States. A committee was appointed consisting of Profs. Coulter, Farlow and Bessey to consider the subject of domestic and foreign postage upon botanical specimens. This committee is instructed, by correspondence or otherwise, to obtain information as to grievances, and to send a remonstrance in the name of the association to the proper authorities. They expect to be able to present a favorable report at the Philadelphia meeting.

At a second meeting of the Club, Prof. E. S. Bastin, of the Chicago College of Pharmacy, read a paper entitled, "A fact bearing upon the evolution of the genus *Cypripedium*," which was followed by considerable discussion, chiefly upon teratological matters, in the course of which Prof. Bessey took occasion to express a very decided opinion about laying too much stress upon monstrosities. Dr. W. G. Farlow also gave an exceedingly interesting talk upon some of the common parasitic cryptogams which are most convenient and useful for class work, and many ideas were obtained which will blossom out in more than one laboratory this fall and winter.

At a third meeting of the Club, a committee was appointed to provide for meetings and excursions at Philadelphia next summer, and, as this city is a perfect nest of botanists, and within easy reach of many more, an outpouring of botanists is expected. With the rich collections of the Academy of Sciences, the famous ballast grounds, the New Jersey barrens, etc., there need be no lack of profitable excursions. The committee to perfect all these arrangements consists of Prof. J. C. Arthur, of Chicago, and J. H. Redfield, Esq., of Philadelphia, who have power to appoint a third member. At this same meeting W. M. Canby, Esq., was present, just returned from his northern boundary survey, where he was officially looking after grazing lands, but at the same time keeping his eyes open botanically. He gave the Club some account of the region traversed, and the characteristics of the vegetation, calling attention particularly to the commingling of Pacific coast and Rocky mountain forms as the mountains approach the British boundary.

Several small excursions were made, all of which resulted very profitably, but owing to the impossibility of arranging anything more than a few hours in advance, they were more slimly

attended than need be hereafter. Botanists should go to Philadelphia next year with specimens, queries and anything of botanical interest, as the Club will give abundant opportunity for informal discussions that could find no place in the regular sectional meetings of biology.

In regard to the botanical work done at Minneapolis during the sessions of the section of biology, the following account will give some idea. The papers are numbered in the order of their presentation, without any reference to their association numbers.

1. PROF. W. J. BEAL, as Vice President of Section F, gave the customary address at the opening of the sessions, showing the important relations existing between agriculture and botany. The address will speedily appear in full in *Science*.

2. DR. E. L. STURTEVANT read a paper upon "Parallelism of structure of Maize and Sorghum Kernels," in which it was very clearly shown that what must be considered as three distinct species of corn have been produced artificially, the regions of chit, starch and corneous layer appearing quite constantly different in cross sections of flint, dent and pop-corn.

3. D. P. PENHALLOW presented a paper on the "Relation of root and leaf areas; Corn," which, in the author's absence, was read by abstract.

4. E. W. CLAYPOLE read a paper entitled "Note on the present condition of the Box Huckleberry, *Vaccinium brachycerum*, in Perry county, Penn." A very satisfactory conclusion to this paper was reached when the author stated that he had with him for distribution specimens of this very rare plant.

5. DR. E. L. STURTEVANT, speaking of "Influence of position on seed," showed by numerous experiments that in the case of corn, at least, position goes for a great deal.

6. DR. E. L. STURTEVANT, on "Agricultural Botany," struck out boldly in a new and very important field. He claimed that all fixed varieties of the agriculturist and horticulturist are fit subjects of classification, and that for convenience of identification they should be classified. Such arrangement, however, should not be made to coincide with ordinary botanical classification, for in the latter species are treated as the resultants of natural forces; but in order to produce the varieties of agriculture and horticulture an entirely new force comes into play, namely, the intelligence of man, and its results should be classified on a new basis. A scheme was hinted at, but not clearly defined; but enough was given to make it evident that the author had opened up a new world of labor, which it is for him now to

cultivate, and which will amply repay investigation in many more directions than agriculture and horticulture.

7. MISS M. E. MURTFELDT read a paper upon the "Periodicity of *Sabbatia angularis*," in which a period of seven years was made out, the explanation of which was in vain sought for.

8. PROF. W. R. DUDLEY presented a paper upon "An abnormal Orchid; *Habenaria hyperborea*." It seems that the author discovered many spikes of this species in which the flowers were spurless, which fact was abundantly testified to by the display of specimens.

9. PROF. W. R. DUDLEY also spoke of the "Origin of the Flora of the central New York lake region," giving it as his opinion that the origin of the flora of this very peculiar region must be looked for to the north and west.

10. PROF. JOHN M. COULTER read a paper upon the "Development of the Dandelion Flower," which was an embryological study. The results obtained are noted elsewhere in this number.

11. PROF. W. J. BEAL spoke of the "Leaves of the Gramineæ with closed sheaths," bringing up several instances to illustrate the statement.

12. PROF. J. C. ARTHUR spoke of "A supposed poisonous seaweed in the lakes of Minnesota," a paper which probably excited greater local interest than any paper presented to the section. The summer before Prof. Arthur had received specimens of water from certain Minnesota lakes which seemed to be fatal to cattle drinking it. The specimens were found to contain an alga which is probably *Rivularia fluitans*. A visit to one of the lakes showed these minute balls occurring in vast quantities, forming a thick scum on the surface. Such masses exposed to the sun and decaying gave off an offensive odor, and in this condition were apparently fatal to cattle using the water. In two or three weeks the danger was past. If this be *Rivularia fluitans* it is its first discovery in America, though it is now found to be quite generally distributed in Minnesota lakes. Dr. Farlow, Prof. Arthur and the writer found an abundance of it in Lake Minnetonka. The author did not give it as his unqualified opinion that the plants were poisonous, but that they seemed so.

13. JOSEPH F. JAMES read a paper entitled "The position of Compositæ in the natural system," in which he very justly claimed for *Gamopetalæ* the most highly modified flowers, and among them *Compositæ* as of the highest rank.

14. PROF. E. S. BASTIN presented a paper entitled "A fact

bearing upon the evolution of the genus *Cypripedium*," in which he noted the discovery of a *Cypripedium* with an almost perfectly regular flower, and from its structure called attention to the probable morphology of the normally modified parts.

15. DR. W. G. FARLOW spoke upon "Some Algæ found in water supplies," in which an interesting account was given of the author's investigation of the water supply of Boston, the Nostocs with "cucumber taste" and those with "pig-pen odor," the dangers to be anticipated in using water from any lakes in general, and Minnesota lakes in particular, and the care necessary to avoid them. Incidental reference was also made to Prof. Arthur's discovery of *Rivularia fluitans* the year before.

16. DR. W. G. FARLOW also spoke upon "Certain parasitic Fungi," being an account of some of the most injurious species of the genus *Peronospora*.

17. C. RICHARDSON read before the Chemical Section a paper upon "Sotol, a Mexican forage plant." The plant in question is *Dasyliirion Texanum*, and is used as a forage plant in Texas, sheep becoming very fond of it, and when using it can do without water for several weeks. A plain covered with it was described as looking like a field of cabbages.

It will be seen by this hasty summary that botany was well represented at Minneapolis, and it is the expectation that Philadelphia will witness a far greater gathering of botanists and botanical papers.—J. M. C.

GENERAL NOTES.

Aquilegia longissima is the name (for which, I believe, I am responsible) of a species discovered by Dr. Palmer, in Northern Mexico, and distributed in his collection. From Dr. Palmer's seeds plants were raised in the Botanic Garden here, and probably elsewhere. Its first blossoming seemed to be out of season, and abnormal; but it is now blossoming well, and if by no means the handsomest species of the genus, is the most extraordinary. It is just coming into blossom now, in the latter days of July, when its relative, *A. chrysantha*, has passed its prime. The spurs (from which it gets its name) are as much longer than those of *A. chrysantha* and *A. corulea* as those are of the old-fashioned species. They are four inches long, and slender-filiform, even quite to their origin. The limb of the petals, which in *A. chrysantha* often nearly equals the sepals, and inclines to spread, is in this species about as widely spreading and almost as long as the narrower (lanceolate) sepals, elongated-spatulate in form, the orifice of the spur at its base, abrupt and barely a line in diameter. The flower, as in its relative, is erect or a little inclined; the straight spurs, with a manifest nectariferous knob at base. One would like to know what Lepidopterous insect it is that drains it.—A. GRAY.